Application No. 10/646,008 Response dated: June 5, 2006

Reply to Final Office Action dated: March 6, 2006

## Amendments to the Specification:

Please replace the paragraphs at page 6, lines 8-21 with the following rewritten version:

"FIGS. 3A and 3b illustrates arrangements of an LCD according to a-preferred embodiments of the present invention;

FIG. 4 illustrates arrangement of a TFT panel for an LCD according to a preferred embodiment of the present invention, in which intersecting area of data and gate lines of FIGS. 3A and 3B and contact portions respectively connected to the gate and data lines are enlarged;

FIG. 5 is a sectional view of a TFT panel, the section being taken along line V-V' of FIG. 4;

FIG. 6 shows an enlarged view for gate driving signal wire and shorting bar of FIG. 3A according to a preferred embodiment of the present invention;

FIG. 7 is a sectional view of a TFT panel, the section being taken along line VII-VII' of FIG. 6.

FIG. 8 shows an enlarged view for gate driving signal wire and shorting bar of FIG. 3A according to a second preferred embodiment of the present invention;"

• Please replace the paragraphs at page 9, lines 15-24 with the following rewritten version:

"An exemplary detailed structure of the LCD shown in FIGs. 1 and 2 according to an embodiment of the present invention is hereinafter described with reference to FIGS. 3A and 3B.

FIG. 3A is a schematic layout view of an LCD according to an embodiment of the present invention.

As shown in FIG.  $3\underline{A}$ , a PCB 550 is disposed above the liquid crystal panel assembly 300 having the gate lines  $G_1$ - $G_n$  and the data lines  $D_1$ - $D_m$  thereon. Circuital components such as the signal controller 600, the driving voltage generator 700, and the gray voltage generator 800 are provided on the PCB 550. The liquid crystal panel assembly 300 and the PCB 550 are interconnected electrically and physically by a plurality of data FPC films 510."

Application No. 10/646,008 Response dated: June 5, 2006

Reply to Final Office Action dated: March 6, 2006

• Please replace the paragraphs at page 9, lines 30 and 31 with the following rewritten version:

"Although FIGS. 3A and 3B shows only four gate driving signal lines 521-524 for illustrational purpose, the actual number thereof may be equal to or larger than five."

• Please replace the paragraphs at page 10, lines 11-31 with the following rewritten version:

"As shown in FIGS. 3A and 3B, a plurality of pixel areas defined by the intersections of the transversely extending gate lines  $G_1$ - $G_n$  and the longitudinally extending data lines  $D_1$ - $D_m$  form a display area D on the panel assembly. A black matrix 220 (indicated by hatched area) for blocking light leakage exterior to the display area is provided around the display area D. Although the gate lines  $G_1$ - $G_n$  or the data lines  $D_1$ - $D_m$  extend substantially parallel to each other in the display area D, they close each other group by group like a fan such that distance between adjacent signal lines become reduced. And then, the signal lines become nearly parallel again.

Referring to FIG. 3A, fFour gate driving ICs 440 are mounted on the liquid crystal panel assembly 300 near its left edges marginal portion outside of the display area D and arranged in the column direction. A plurality of gate driving lines 321, 322, 323a-323d and 324 are formed in the vicinity of the gate driving ICs 440400. Some gate driving signal lines 321, 322, and 324 are electrically connected to respective gate driving signal lines 521, 522, and 524 of the data FPC film 510 via contact portions C4 located near the upper edge of the assembly panel 300, and they are also connected to input terminals of the gate driving ICs 440 via contact portions C3. The contact portions C3 are positioned at one ends of branches of the respective driving signal lines 321, 322 and 324, or are positioned on the respective lines 321, 322 and 324. The contact portions C3 for the lines 321 and 322 may lie directly on the lines 321 and 322 because the lines 321 and 322 have large line width. The size of contact portions C3 on those lines 321 and 322 can have bigger dimension than other contact portions C3."

Application No. 10/646,008 Response dated: June 5, 2006

Reply to Final Office Action dated: March 6, 2006

• Please replace the paragraphs at page 11, line 26 to page 12, line 6 with the following rewritten version:

"Different from the above described embodiment, the data driving ICs 540 may be mounted on the liquid crystal panel assembly 300 rather than on the data FPC film 510 as illustrated in FIG. 3B. In this case, a plurality of data driving ICs 540 are transversely arranged one after another on the panel assembly 300, and a plurality of data driving signal lines (not shown) transmitting control signals, gray voltages, etc., from an external device are provided on the panel assembly 300 and extend in the row direction. In addition, among the plurality of data driving signal lines, two lines that are closest to the data lines  $D_1$ - $D_m$  are alternately connected to the data lines  $D_1$ - $D_m$ . Separate test pads are provided at ends of the respective data driving signal lines connected to the data lines  $D_1$ - $D_m$ . Each data driving signal line connected to the data lines  $D_1$ - $D_m$  transmits the same signal to all the data driving ICs 540, and examples of the same signals are a clock signal, the gray voltages from the gray voltage generator 800, and the driving voltages such as ground voltage and supply voltage for the data driving ICs 540."

• Please replace the paragraphs at page 15, lines 1-13 with the following rewritten version:

"As described above, the liquid crystal panel assembly 300 includes two panels 100 and 200, wherein the lower panel 100 equipped with TFTs is called "TFT panel". The gate driving signal lines 321, 322, 323a-323d, and 324 in FIGS. 3A and 3B are formed on the TFT panel 100. Structural features of such a TFT panel 100 are hereinafter described in detail with reference to FIGs. 4-7.

FIG. 4 is a layout view of a TFT panel for an LCD according to an embodiment of the present invention, in which intersecting area of data and gate lines of FIGS. 3A and 3B and contact portions C1 and C2 respectively connected to the gate and data lines are enlarged. FIG. 5 is a sectional view of the TFT panel, the section being taken along line V-V' of FIG. 4. FIG. 6 shows an enlarged view for gate driving signal wire and shorting bar of FIG. 3A according to a preferred embodiment of the present invention. FIG. 7 is a sectional view of the TFT panel, the section being taken along line VII-VII' of FIG. 6."